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Mixed agile/traditional project management methodology – reality or illusion?

Mario Špundak[a]*

[a]*Hrvatski telekom d.d., Zagreb, Croatia*

Abstract

Project management methodology is usually defined as a set of methods, techniques, procedures, rules, templates, and best practices used on a project. It is commonly based on a specific project management approach, that defines a set of principles and guidelines which define the way a project is managed. With the growing trend of usage of agile project management on different projects, it is clear that two opposite sides exist – traditional and agile project management approach, and that there exists a need to combine both approaches. So, the question is if it is and how it is possible to combine both approaches in a single project management methodology?

The paper covers thorough literature review and starts with the definition of the project management approach and of the project management methodology. It provides overview of different project management approaches and defines project management methodologies. The literature review shows what is considered as part of project management methodology in a wider or narrower sense, and what the main characteristics of a methodology are. The need for combining project management approaches is shown on the case of software development project.

The paper provides basis for further research on application of different project management approaches and methodologies. Further research could build on an idea of creating unique methodology for project, based on different project management approaches. In that way it is possible to create project management methodologies that have high possibility of customization to projects and to project environments.

Keywords: Agile project management; traditional project management; methodology; methodology elements.

* Corresponding author. Tel.: +385 1 4913 180.
*E-mail address:*mario.spundak@gmail.com

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1. Introduction

Agile project management is gaining very wide public attention recently, and it is considered as "the" project management approach for today's projects, compared to what is usually called traditional project management approach. But, project management is applied in practice in the form of project management methodologies often tailored to specific needs of the company that runs the projects (Špundak, Sukić & Štriga, 2011).

So, to better understand current discussions, it should be first explored what exactly is meant by the term project management approach as well as the term project management methodology, as it is a common practice to use both terms without detailed or further explanation. Then, it could be possible to explore how these two terms are interconnected. Moreover, it should be detailed how does agile project management approach differs from what is called traditional project management approach. And then the main question arises, is it possible to combine different approaches within a single project management methodology. Consequently, one could also ask is there a single "best" methodology that would represent optimal solution for all projects in a specific environment, e.g. one company? Or, some kind of adaptation is needed to create the best fit methodology for specific project.

To answer the research question and better understand difference between project management approach and project management methodology, as well as different project management approaches, further literature review is needed.

2. Project management methodology

Project management methodology is defined by Project Management Institute as set of methods, techniques, procedures, rules, templates, and best practices used on a project (Project Management Institute, 2008). Other definitions do not differ significantly. Charvat (2003) defines project management methodology as set of guidelines and principles that can be tailored and applied to specific situation, where guidelines could be as simple as task list, or it could be specific approach to project with defined tools and techniques. Similarly, Gane (2001) defines project management methodology from the knowledge perspective as knowledge set about tasks, techniques, deliveries, roles and tools used during the course of the project paired with knowledge about adjusting all of that to specific project, while Introna and Whitley (1997) define project management methodology as structured set of techniques and tools used for solving specific problem. The most extensive definition of the project management methodology is given by Cockburn (2003). He defines it as any principle project management team relies on in order to successfully deliver project result.

It is worth mentioning here that there are some other terms that are used for the same meaning as project management methodology. One of the most widely used project management methodology, PRINCE2, is defined as "structured project management method", consisting partially of defined processes and techniques (Office of Government Commerce, 2002; Office of Government Commerce, 2009). Additionally, Brinkkemper (1996) defines project management method as a structured way to manage projects consisting of rules and directions and is based on specific way of thinking. Similary, term software process as used by Humphrey (1989) is defined as set of tools, methods and practices used in software development. Even though both project management method and methodology could be considered synonyms as both are based on underlying approach and have defined principles and rules, project management methodology is commonly considered to include detailed techniques and tools.

Project management methodology could be also defined by its goals and scope. The final goal of the methodology is increase of the probability for successful project delivery (Kerzner, 2001), while in a more detail, methodology goals are reaching high quality of the project results, simplification, control and process improvement (Nelson, Ghods & Nelson, 1998)

Cockburn (2006) states several methodology purposes, like introduction of the new team members to the process, easier replacement of the team members, clear responsibilities, customer impression, visible progress and status reporting and education. Good project management methodology will guide project manager through controlled, managed and visible set of activities in order to achieve project results (Office of Government Commerce, 2009). Kerzner (2001) argues that characteristics of a good methodology are recommended level of

details, usage of templates, standardized planning, time management and cost controlling techniques, standardized reporting, flexibility for usage on all projects, flexibility for quick development, that it is understandable to user, accepted and usable within organization, it uses standardized project lifecycle phases, and that it is based on guidelines and good business ethics.

To sum up, so far authors have tried to define what project management methodology is in the context of their own research, and what the purposes of the methodology are. All of this provides solid ground for further discussion, how to best utilise project management methodologies for specific project.

3. Project management approaches

The term project management approach is most frequently used as a set of principles and guidelines that define how specific project is managed (Iivari, Hirschheim & Klein, 2000; Introna & Whitley, 1997). The almost similar meaning has a term project management framework, which represents operative set of rules, processes, methods and templates to be used during the project lifecycle (Introna & Whitley, 1997; Office of Government Commerce, 2002; Project Management Institute, 2008).

3.1. Traditional project management

Project management is applied in today's business world to a variety of different projects. Principles established in the 1950's have prescribed that methods and procedures should be applied to every project in a uniform way. Such uniform implementation should ensure robustness and applicability to a wide range of projects, from the simple and small projects to most complex and large ones. The basic idea behind that traditional, rational and normative approach is that projects are relatively simple, predictable and linear with clearly defined boundaries which all makes it easy to plan in detail and follow that plan without much changes (Andersen, 2006; Boehm, 2002; Boehm & Turner, 2003; Cicmil, Cooke–Davies, Crawford & Richardson, 2009; Collyer, Warren, Hemsley & Stevens, 2010; DeCarlo, 2004; Leffingwell, 2007; Saynisch, 2010; Shenhar & Dvir, 2007; Williams, 2005; Wysocki, 2007). The ultimate goal of the traditional project management approach is optimization and efficiency in following initial detailed project plan, or, having said in usual way, to finalize project within planned time, budget, and scope (DeCarlo, 2004; Shenhar & Dvir, 2007; Wysocki, 2007).

Furthermore, such approach is prevailing in the most of the available bodies of knowledge produced by the project management organizations. The reason for this domination could be found in the fact that first versions of bodies of knowledge were developed in the 1980's when traditional approach was actually the only project management practice. During the following editions of bodies of knowledge, the updates of actual practices were implemented, but the rate of change was not always aligned with practitioners' expectations.

Even though traditional approach to project management emphaiszes robustness as one of its advantages, prescribing that the same methods and techniques could be applied to all projects uniformly, it is increasingly mentioned as one of the crucial disadvantages of such approach. Today, increasing number of authors stress the fact that "one size does not fit all" (Aguanno, 2004; Chin, 2004; Shenhar, 1998; Shenhar & Dvir, 2007; Wysocki, 2007). Projects, same as business environments in general, become progressively complex, with higher number of tasks and complex interrelations, while traditional project management approach is based on mostly hierarchical and linear task relations and can not properly reflect all complexity and dynamics of today's projects (Cicmil, Williams, Thomas & Hodgson, 2006; Cicmil et al., 2009; Collyer et al., 2010; Williams, 2005).

Furthermore, assumption that project is isolated from its environment causes the second major disadvantage of the traditional approach (Aguanno, 2004; Cicmil et al., 2009; Shenhar & Dvir, 2007). Change in any form is the reality of today's business environments and the projects within those environments (Aguanno, 2004; Highsmith & Cockburn, 2001; Leffingwell, 2007; Shenhar & Dvir, 2007; Williams, 2005; Wysocki, 2007. Changes in the initial plan are inevitable due to adjustments to unpredictable and dynamic changes in the project environment or within the project itself (Collyer et al., 2010; Olsson, 2006). Also, it is sometimes very hard to create complete project

plan at the outset of the project due to inability to clearly define project goals (Chin, 2004; DeCarlo, 2004; Shenhar & Dvir, 2007).

Williams (2005) summarizes that main reasons of inappropriateness of the traditional approach to majority of today's projects are structural complexity, uncertainty in goal definition and project time constraints.

3.2. Agile project management approach

All of the objections to traditional project management approach, together with the growing requests for continuous innovations that have impacted all industries and with the cost reduction trends, have resulted in advent of new project management approaches (Aguanno, 2004; Conforto & Amaral, 2008; Williams, 2005). But, advent of new approaches is tightly connected with the field of the software engineering and software development (Aguanno, 2004; Boehm, 1988; Manifesto, 2001; Williams, 2005), and new project management approaches appear together with new approaches to software development.

These new approaches have appeared under several different names, all emphasizing difference to traditional approach even with the name. The most often used name is agile approach (Aguanno, 2004; Chin, 2004; Highsmith, 2004; Williams, 2005), while almost the same idea and approach behind it could be found under the names of lean approach (Williams, 2005), extreme approach (DeCarlo, 2004; Wysocki, 2007), and adaptive approach (Shenhar & Dvir, 2007; Virine, 2008; Wysocki, 2007).

The common is that all of them have been characterized by their adaptability to changes during the project lifecycle and to different projects in general (Aguanno, 2004; Boehm & Turner, 2003; Shenhar, 1999; Shenhar & Dvir, 2007). Adaptability is the key characteristics, states DeCarlo (2004), even more important than predictability which is the basis of the traditional approach. Change is inevitable, so new approaches embrace changes and acknowledge that it is almost impossible to create complete project plan at the beginning of the project (Andersen, 2006; Leffingwell, 2007; Shenhar & Dvir, 2007; Williams, 2005). That is the reason why new approaches emphasize project execution before all, in contrast to the traditional approach where emphasis is on thorough planning (Chin, 2004; DeCarlo, 2004; Leffingwell, 2007; Manifesto, 2001; Williams, 2005).

Furthermore, new approaches are not only about pure process following, but more about communication and collaboration between project team members (Aguanno, 2004; Cockburn & Highsmith, 2001; Collyer et al., 2010; Coram & Bohner, 2005; DeCarlo, 2004; Highsmith & Cockburn, 2001; Williams, 2005. Team members are much more involved in decision making, and communication is both formal and informal (Aguanno, 2004; Cockburn & Highsmith, 2001; Haas, 2007; Highsmith & Cockburn, 2001; Williams, 2005).

All of the above requires change in a way of thinking (DeCarlo, 2004; Shenhar & Dvir, 2007) and consequently changes within the specific organization that tries to embrace any of the new approaches (Aguanno, 2004; Boehm & Turner, 2005; Chin, 2004; Cockburn & Highsmith, 2001; DeCarlo, 2004; Highsmith, 2004; Lawrence & Yslas, 2006; Leffingwell, 2007).

Some ideas that characterize new project management approaches, like iterative approach, have emerged and were used even before (Boehm, 1988), but it was only in 2001 with the Agile Manifesto (Aguanno, 2004; Manifesto, 2001) that these ideas have gained more significant visibility. Manifesto for Agile Software Development, written by the group of authors, set up four core values of the agile approach: "individuals and interactions over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation, responding to change over following a plan" (Manifesto, 2001). By emphasizing items on the left, it is not meant that items on the right are unimportant, these are only less important than items to the left. Even though Manifesto was written for agile software development, all of the core values can be applied almost directly to the agile project management as well (Aguanno, 2004).

The word that was selected to differentiate new approach from the existing one was agility. Highsmith (2004) defines agility as ability to create and to respond to change in order to create value in turbulent business environment. Agility, as almost every research endeavor, is based on several business principles like continuous innovation, product adaptation, shortening delivery times, adjustment of people and processes, and reliable results (Highsmith, 2004). Agility is also the ability to balance between flexibility and stability. Furthermore, agile environment is defined by Chin (2004) as the one that before all contains certain amount of uncertainty and

requires specific knowledge, and stresses the need to deliver project as soon as possible. Consequently, Wysocki (2007) states that typical agile project would be the one that will be characterized with great amount of uncertainty, and will be forced to deliver very fast, with major changes during project execution.

To be more comparable to traditional approach, authors usually set up agile approach in several phases, similar to traditional project lifecycle phases. Highsmith (2004) has proposed five phases of the agile project management approach: Envision (define vision, project scope, and project organization), Speculate (develop model defined by the product characteristics and time constraints, and iteration plan for vision implementation), Explore (deliver tested parts in short time and continuously search for a way to reduce project risk and uncertainty), Adapt (check deliverables, current situation, and team behavior to adapt if necessary) and Close (close project, create lessons learned, and celebrate). Very similarly, DeCarlo (2004) sets up his Flexible Project Model with four iterative phases: Visionate, Speculate, Innovate, and Reevalute, and with closing phase Disseminate.

As already stated, the idea of the agile approach is to embrace changes during the project (Aguanno, 2004), so agile approach is in its basis iterative approach (DeCarlo, 2004; Haas, 2007). Every iteration, preferably short, is comprised of all phases and final project scope is dynamically built by every iteration, and according to Benediktsson and Dalcher (2005) project scope could be changed up to 30% during each iteration.

So, not only that iterative approach helps in building final project scope, it can help in faster execution of the project by delivering early benefits and it can help to achieve better control of the uncertain projects (Benediktsson & Dalcher, 2005). Aguanno (2004) similarly states that main advantages of using agile approach are reducing risk of not defining project scope and consequently risk of product quality, better project control, but also better project communication.

On the other hand, opponents of the agile approach usually notice that such approaches are only excuse for not using basic and necessary principles of software development and project management (Rakitin, 2001), and that there is still a lack of empirical evidence of successful application of the agile methods (Coram & Bohner, 2005; Conforto & Amaral, 2008; Leybourne, 2009).

But, lately, there is more and more evidence from empirical research of successful application of agile approach (Chow & Cao, 2008; Fogelstrom, Gorschek, Svahnberg & Olsson, 2010). One of such research (Chow & Cao, 2008) has found that critical success factors for the agile approach include appropriate usage of agile methods, highly qualified project team, and right delivery strategy, while appropriate management process, organizational environment, and customer involvement are factors that might contribute to project success. Similarly, Boehm and Turner (2005) state that probably the most important challenges of agile implementation are organizational constraints, and therefore distinguish obstacles in the areas of development processes, business processes, and people management. But, most of them are matter of perception and they can be successfully avoided by recognizing and understanding differences between traditional and agile approaches, by careful preparation, patience and by work.

3.3. Typical usage of different project management approaches

Both traditional and agile approaches have their advantages and disadvantages, so it is not possible to uniformly assert that one approach is better than another (Aguanno, 2004; Andersen, 2006). But, it is often necessary to use both approaches. The need for different approaches to project management could be visible within the organization on a project portfolio level, depending on different project categories in respect to project characteristics, or even on a single project in usage of specifics methods and techniques, depending on requests for specific project phase, and again in regard to project characteristics. One should have in mind appropriateness of approach to specific project (Boehm, 2002), as it is possible that inappropriate approach will not help achieve project success, but on the contrary, it could cause additional problems and lead to project failure (Shenhar, 1999).

Traditional approach is more appropriate for projects with clear initial user requirements and with clear project goals, therefore with very low level of uncertainty (Coram & Bohner, 2005; DeCarlo, 2004; Fernandez & Fernandez, 2008; Wysocki, 2007). Such projects are expected to have very low requirements change rate (Shenhar & Dvir, 2007; Wysocki, 2007), and it is not necessary to involve end users heavily in the project (Coram & Bohner, 2005; Wysocki, 2007). In these situations, emphasis will be on planning, and based on the initial plan, on

predictable and linear following of that project plan with goal of optimization of project activities and efficiency in their execution (Boehm, 2002; DeCarlo, 2004; Shenhar & Dvir, 2007). Traditional approach is also appropriate for projects where formal documentation is required in any time of the project (Boehm, 2002; Coram & Bohner, 2005). Typical projects would include operative routine projects with predictable and verified way how to accomplish project goals, like typical construction or engineering projects (Chin, 2004; DeCarlo, 2004; Wysocki, 2007).

It is also noted that bigger projects, no matter if the size is determined by the number of project team members (Aguanno, 2004; Boehm, 2002; Boehm & Turner, 2003; Cockburn, 2000; Fowler, 2005; Highsmith, 2004), or by the amount and complexity of clearly defined requirements (Boehm, 2002; Coram & Bohner, 2005), or even by duration (Coram & Bohner, 2005), are more appropriate for traditional project management approach. As already stressed, one of the key success factors of the approach selection is organizational environment. Generally speaking, organization can be unprepared or even unwilling to implement new approaches, and the only way in such situations is to use existing processes, which is in the majority of cases traditional approach (Conforto & Amaral, 2008; Lawrence & Yslas, 2006; Wysocki, 2007). Furthermore, bigger organizations, with number of organizational units involved in single projects, are more ready for use of traditional approach (Chin, 2004) as that approach puts emphasis on control of work. For the same reason of control, and the fact that importance of the human factor is not that accentuated in traditional approach, it is recommended to use traditional approach if team members do not agree on different approach, if team members are less experienced, if fluctuation of team members is expected during the course of the project, or if project managers is not in everyday contact with team members (Coram & Bohner, 2005). Finally, it is recommended to use traditional approach if system criticality is one of the key characteristics of the project, when consequences of system failure can be very serious (Boehm & Turner, 2003; Cockburn, 2000).

On the other hand, agile project management approach is intended before all to the creative, innovative projects, such as research projects or new innovative product development projects or even process improvement projects (Chin, 2004; Conforto & Amaral, 2008; Highsmith, 2004; Wysocki, 2007). All such projects are characterized by high level of uncertainty, unclear project goals or incomplete and unpredictable requests, for which it could be assumed that will be significantly changed during the course of the project (Aguanno, 2004; Boehm, 2002; Boehm & Turner, 2005; Cockburn, 2000; Conforto & Amaral, 2008; Coram & Bohner, 2005; DeCarlo, 2004; Haas, 2007; Highsmith, 2004; Leffingwell, 2007; Shenhar & Dvir, 2007; Williams, 2005; Wysocki, 2007), but on the other hand, with clear business need and vision (Haas, 2007). Again, due to constant change requests, projects are organized in an iterative way, non–linear, with frequent modifications and updates of the project plan and require close and frequent collaboration with end user during the project (Boehm 2002; Haas, 2007; Wysocki, 2007). This iterative approach also helps in fast implementation (Benediktsson & Dalcher, 2005) which is required due to tight time constraints (Boehm & Turner, 2005; Chin, 2004; DeCarlo, 2004; Leffingwell, 2007; Williams, 2005; Wysocki, 2007), and for the reason of better project monitoring and controlling, requirements are organized functional (Boehm & Turner, 2005; Haas, 2007). To conclude, typical agile project would be smaller standalone software development project, most often within the single organization, and usually with emphasis to the user interface (Boehm 2002; Boehm & Turner, 2003; Boehm & Turner, 2005; Coram & Bohner, 2005).

Contrary to the traditional approach, impact of the human factor and especially communication between project team members is accentuated to the point that it is recommended that project team members should be very good, if not the best one could get (Boehm, 2002; Cockburn, 2000; Cockburn & Highsmith, 2001; Coram & Bohner, 2005; Highsmith, 2004). The recommendation is also that those team members should work on a common location in smaller teams (Chin, 2004; Cockburn & Highsmith, 2001; Coram & Bohner, 2005; Haas, 2007; Lawrence & Yslas, 2006; Leffingwell, 2007; Virine, 2008). The consequence is that agile appropriate projects do not put accent on an extensive documentation, so therefore, project knowledge is mainly tacit (Boehm 2002; Chin, 2004; Haas, 2007).

Due to the significant differences in project work organization compared to traditional approach, organizational environment significantly impacts implementation of the agile project management approach, and organization should be prepared to embrace changes imposed by the agile approach (Lawrence & Yslas, 2006).

Table 1. Difference between traditional and agile approach

Characteristic	Traditional approach	Agile approach
Requirements	clear initial requirements; low change rate	creative, innovative; requirements unclear
Users	not involved	close and frequent collaboration
Documentation	formal documentation required	tacit knowledge
Project size	bigger projects	smaller projects
Organizational support	use existing processes; bigger organizations	prepared to embrace agile approach
Team members	not accentuated; fluctuation expected; distributed team	collocated team; smaller team
System criticality	system failure consequences serious	less critical systems
Project plan	Linear	complex; iterative

4. Choosing appropriate project management methodology for the project

Let us consider one specific IT project, custom software development at a small IT company for a large organization. By using characteristics from Table 1, such project could be characterised with requirements unclear to some extent, even though customer created extensive documentation for the project, and the end users are not involved in the project. As the customer organization is highly bureaucratic, formal documentation during and especially at the end of the project is required, and existing processes should be used. The project is considered to be smaller one (in terms of both duration and workload), so smaller team is planned with mainly linear project plan (2 iterations due to unclear project requirements have been included). Finally, system developed is not the most critical within the organization. So, the main question is, what approach to use for this specific project, and how should methodology for the project look like?

As already stated, goal of the project management methodology is to increase the probability for successful project delivery (Chin & Spowage, 2010; Kerzner, 2001; Milosevic & Patanakul, 2005), and will bring consistency and flexibility that will lead to project team efficiency (Charvat, 2003; Kerzner, 2001; Nelson, Ghods & Nelson, 1998; Thomas & Mullaly, 2008). Furthermore, other benefits of project management methodology include better control of project goals and scope, faster time to market, reduced risks, more efficient processes including decision making process and quality management process, better customer satisfaction, better knowledge management by enabling information exchange between projects and through enabling more time for value added activities (Charvat, 2003; Chin & Spowage, 2010; Kerzner, 2001; Paulson, 2001). But, methodology by itself is not sufficient or even necessary precondition for project success. If the organization and project team do not fully understand project scope and context, there are no tools or techniques within any methodology that will guarantee project success (Introna & Whitley, 1997). Also, inappropriate methodology can have negative impact on project success or at least make managing project harder (Cheema & Shahid, 2005; Nelson, Ghods & Nelson, 1998).

So what will define if methodology will increase chances of successful project delivery? One of the preconditions for the successful methodology usage is coherence with other company processes (Charvat, 2003; Kerzner, 2001), which is the reason why many organizations developed their own project management methodology. Furthermore, methodology should use sufficient number of details, aligned with organizational processes (Charvat, 2003; Kerzner, 2001). It is also of great importance to understand limitations of the methodology, especially the context in which it is applicable (Cockburn, 2000).

Going back to the custom software development project, it is clear that project management methodology should be aligned with both own and customer organization, with the difference that company's own processes are lightweight, tailored to specific need, while customer processes are complex and rigid. From Table 1, both traditional and agile approach should be used. Similar conclusion could be drawn from overview of other characteristics, as project is not a clear representative of application of either traditional or agile approach. It is now question, what methodology is best suited for such project.

All of the above can lead to the conclusion that one methodology is not enough and that there should exist several possible methodologies within the organizational context, or at least possibility to adapt methodology to specific project (Cockburn, 2000; Cockburn, 2006; Germain & Robillard, 2005; Introna & Whitley, 1997; Paulson,

2001). One of the main challenges within that is to find optimal number of appropriate methodology elements that will contribute to the project success (Cheema & Shahid, 2005; Cockburn, 2000; Eskerod & Riis, 2009). Project management methodology elements, as defined by Cockburn (2000, 2006) consist in the wider terms of the following interconnected types of elements: processes, milestones, quality, products, standards, activities, techniques, tools, teams, roles, skills, personalities and team values, while only activities, techniques and tools are considered methodology elements in a narrow sense. Similarly, Chin and Spowage (2010) include as types of methodology elements project management processes, tools, techniques, best practices, values and common terminology. The decision which elements to choose should be before all based on the characteristics of specific project and organizational characteristics, but could also be based on project manager's experience and expert knowledge (Cheema & Shahid, 2005; Office of Government Commerce, 2002). Project management methodologies with basic number of elements are usually called light, while methodologies that include large number of elements are called heavy, or according to Adams (in Cockburn, 2000), little-m and Big-M methodologies, respectively. Factors that could further influence methodology elements selection are according to Cockburn (2000) project size, project (product) criticality, project priorities and personal project manager's decision. These factors could be extended with project team size and experience, number and location of stakeholders, requirements flexibility, understanding and availability of customer, costs, time, risks, and possibility of iterative approach (Cheema & Shahid, 2005). PRINCE2 introduce methodology tailoring as approach to adjustment of methodology to specific project, based on organizational context and project characteristic, but it is done with all the methodology elements, by just scaling them to project specifics (Office of Government Commerce, 2002).

Again, going back to custom software development project, from the previous discussion, possibly the best suited project management methodology could be combination of elements based on agile approach and elements based on traditional approach, as neither fully agile or fully traditional project management methodology would be the best fit. Which elements should be used would require further research in several ways. The first one should be to identify methodology elements within project management methodology, and the second one should be to investigate which project characteristics should be used for selection of project management methodology elements.

5. Conclusion

Taking into account all of the above it is visible first of all, that terms project management approach and project management methodology are somehow defined in a different ways, but that there exist some common understanding. Also, it has been shown that there is no silver bullet for using project management approach and project management methodology for specific project. Both traditional and agile approaches have their advantages and disadvantages, if compared to different project characteristics. Approach selection should be handled with care, considering both project characteristics and characteristics of the organizational environment, and it is possible to combine both approaches for the single project and within single methodology, having in mind when it is better to use which approach. It is important to notice that methodology should be adapted to the project and not vice versa. The case with the custom software development project shows that there really exists the need to combine both approaches. Similar discussion could be extended to different types of project, not necessarily IT projects.

Therefore, to fully answer the question how methodology could be designed for specific project, the challenge is to define which project characteristics are important for that decision. Also, the challenge is to define project management methodology that could be based on different project management approaches, and is highly customizable to each project within specific organizational context. For that purpose, it would be needed to look at the level of methodology elements used to build specific methodology. Is it possible and how to build methodology with methodology elements based on different approaches? What is the level of details needed from methodology element in order to build methodology? All of this is basis for the further research on the topic of project management approaches and methodologies.

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